



Woodland Health

Emerging Threats & Potential Solutions



Iowa's Forest Cover

- Iowa's forests cover 8% of our landscape
- 87% of our 3 million acres are owned by private landowners (FIA)
- 13% in public ownership.
- 26+ million urban trees



Threats

- Current Exotic Invasive Threats

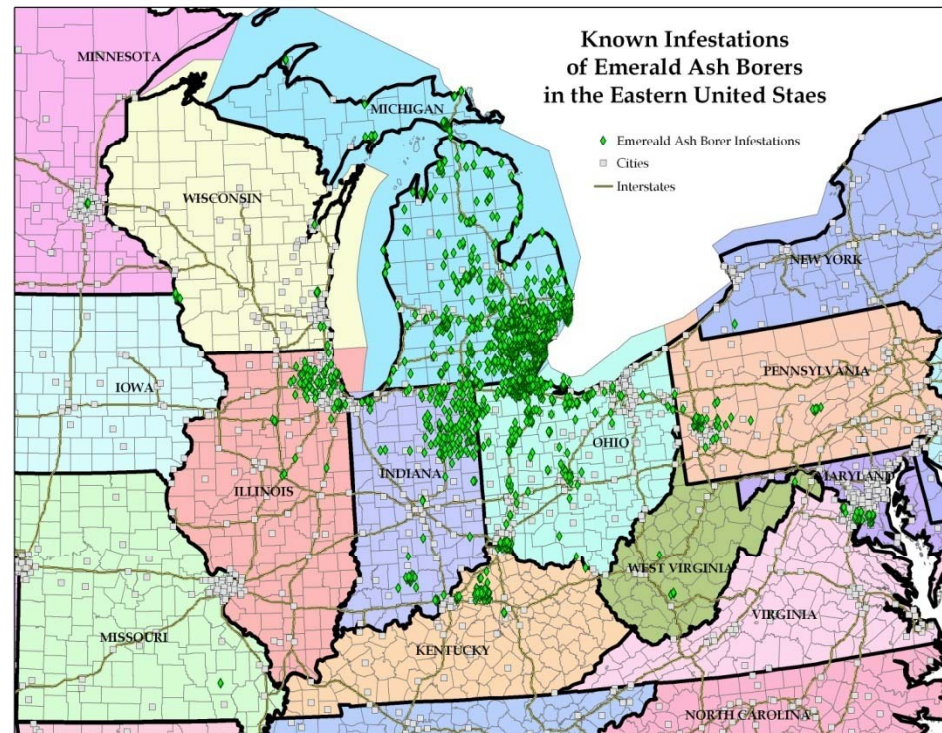
- Emerald Ash Borer (EAB)
- Gypsy Moth
- Bur Oak Blight

- Potential Exotic Invasive Pests

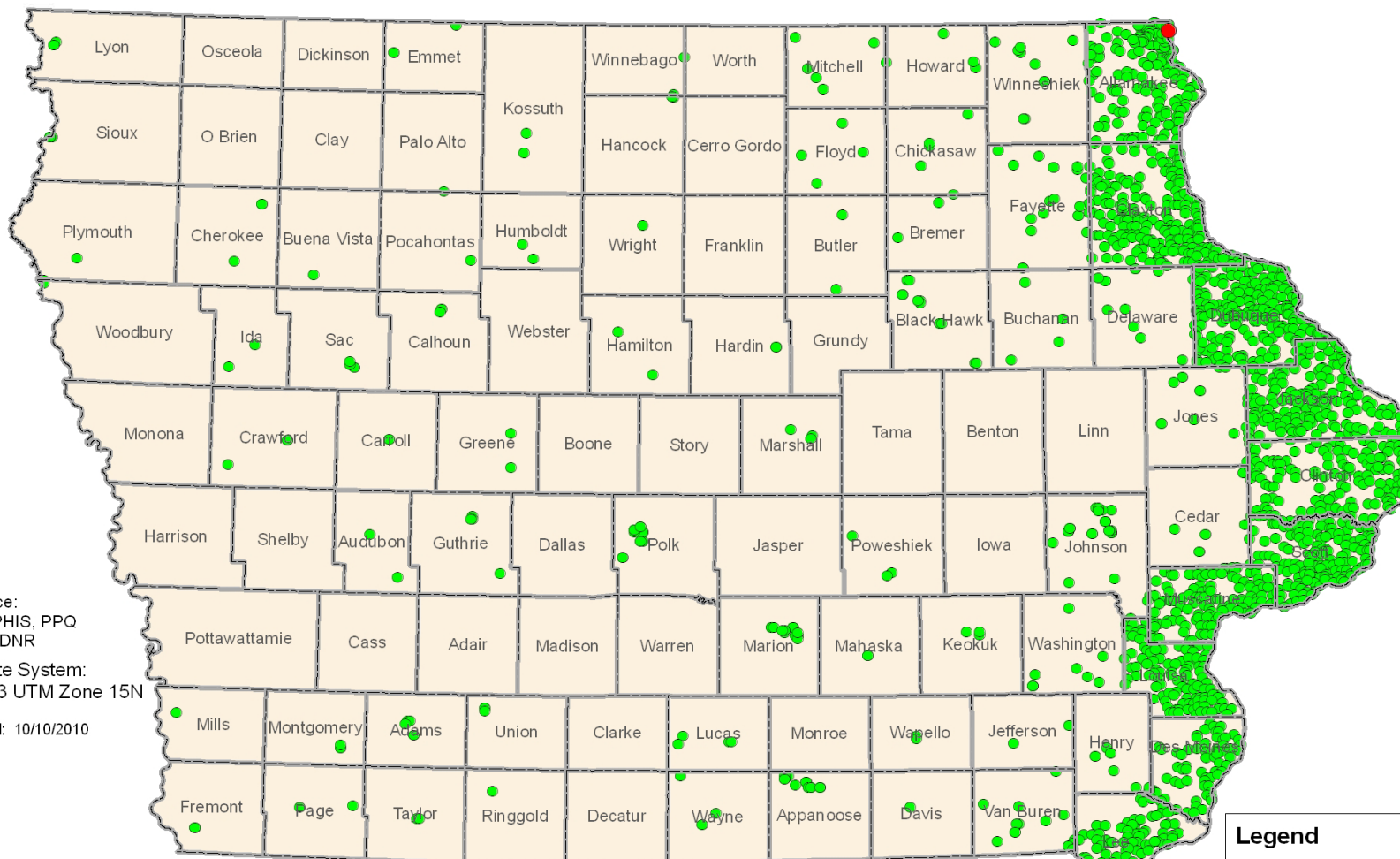
- Thousand Cankers Disease of Walnut
- Asian Long-Horned Beetle

EAB

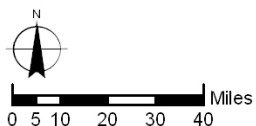
- Introduced into United States in Detroit, Michigan – Started killing trees in 2002
- Metallic green beetle smaller than a penny
- Kills all species of ash in North America
- Confirmed in Iowa on May 14, 2010



2010 Iowa EAB Trap Survey

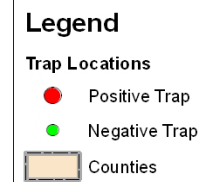


Data Source:
-USDA, APHIS, PPQ
-NRGIS IADNR
Coordinate System:
NAD 1983 UTM Zone 15N
Date Printed: 10/10/2010



Agencies Participating:
- USDA, APHIS, PPQ
- Iowa Department of Natural Resources
- Iowa Department of Agriculture
and Land Stewardship

- Approximately 1846 traps were set in Iowa.
- 1518 were set in the 10 county delimiting area
- 328 were set in as national survey taps throughout
the rest of the state.



Henderson Islands

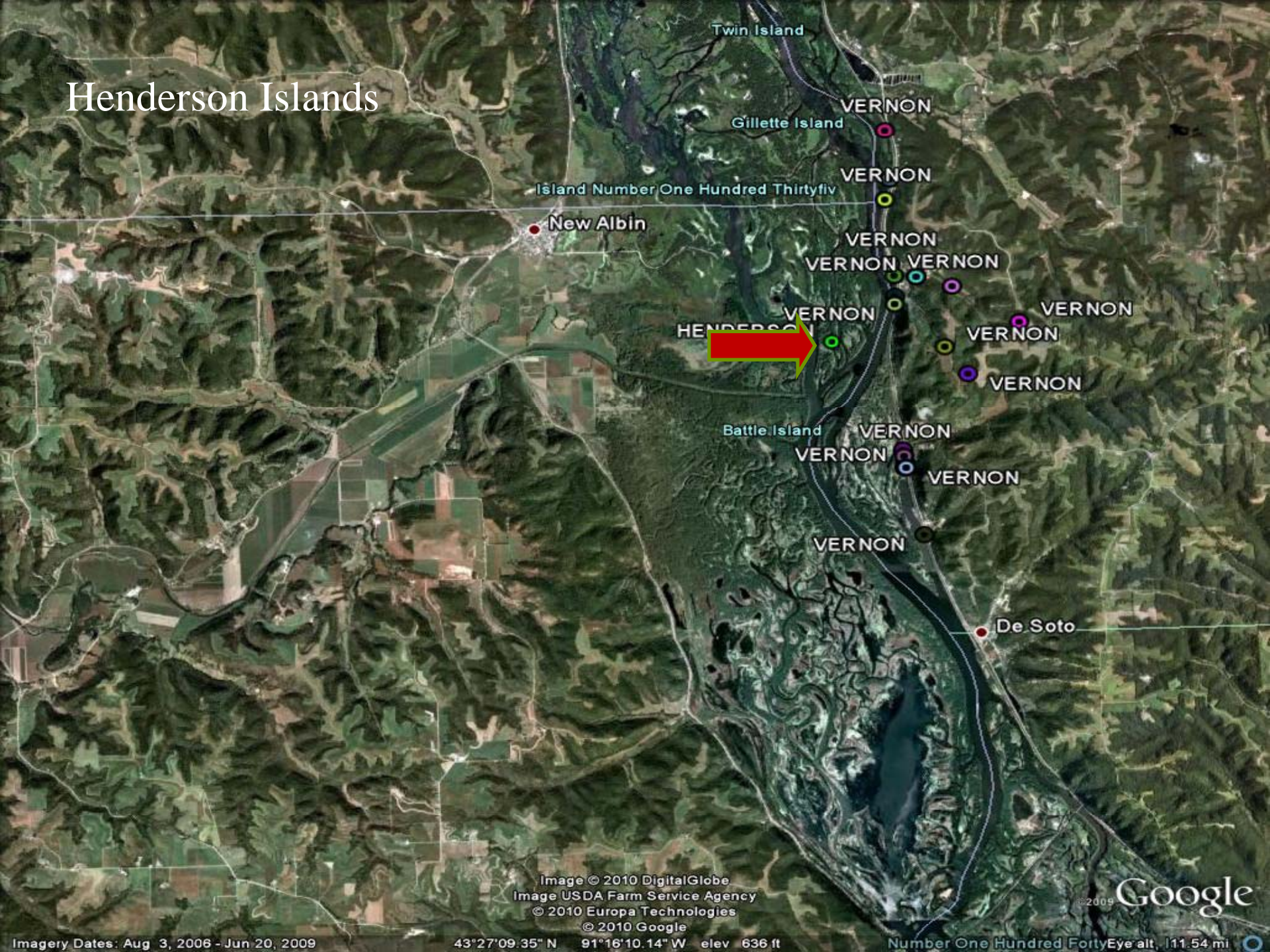


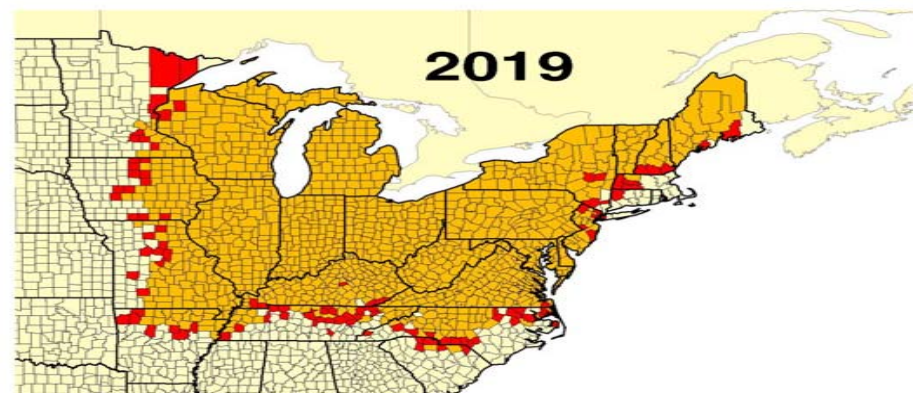
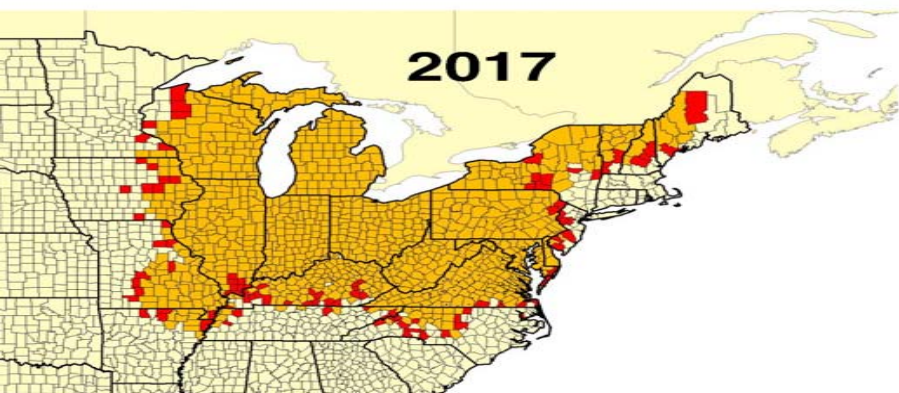
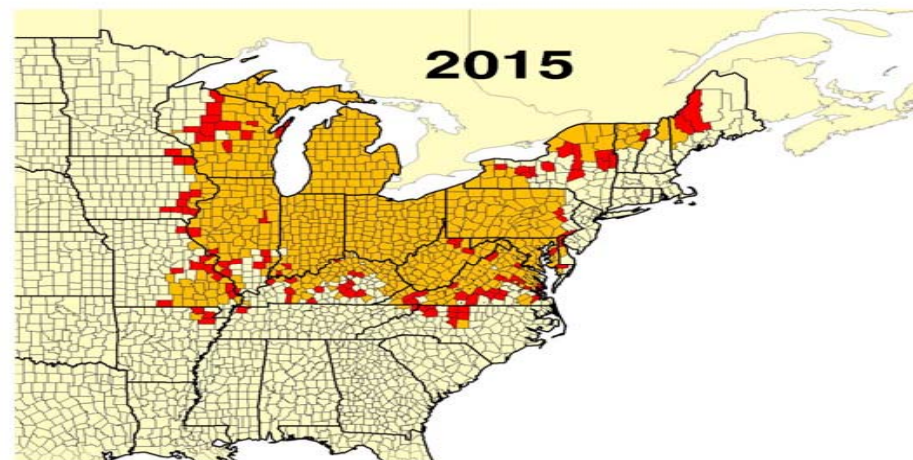
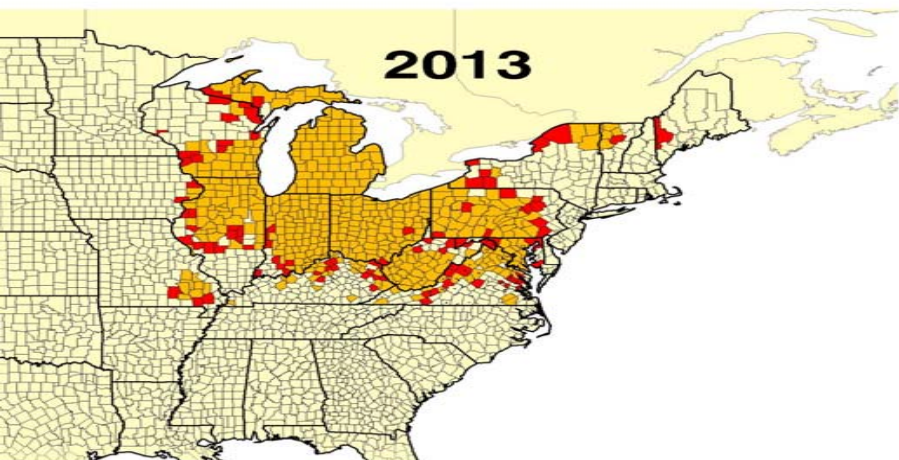
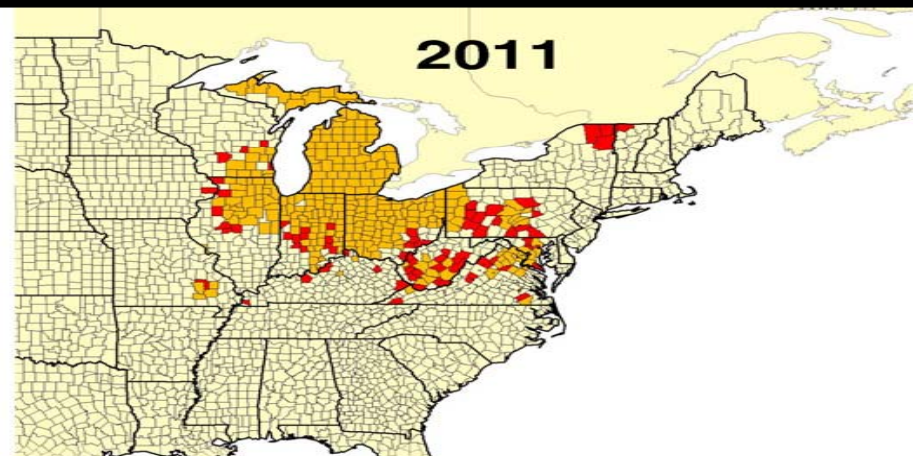
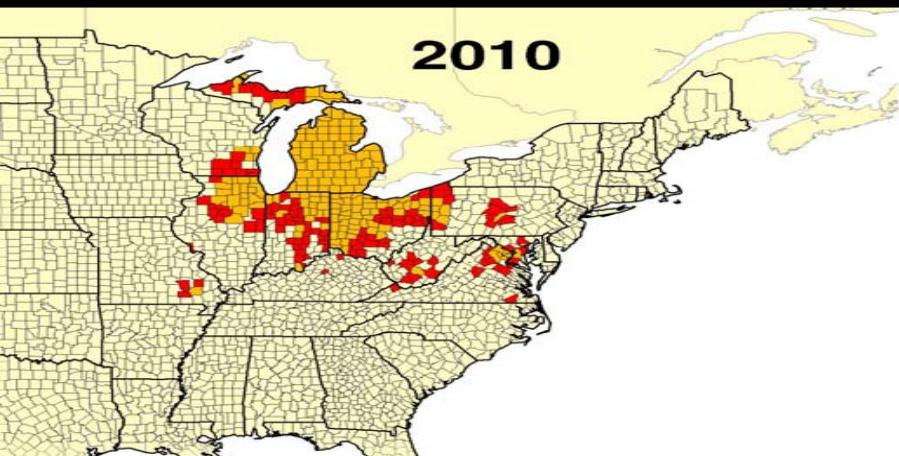
Image © 2010 DigitalGlobe
Image USDA Farm Service Agency
© 2010 Europa Technologies
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Imagery Dates: Aug 3, 2006 - Jun 20, 2009

43°27'09.35" N 91°16'10.14" W elev 636 ft

Number One Hundred Forty Eye alt, 111.54 mi



EAB

- 52 million woodland ash trees
- 3.1 million urban ash trees



EAB

- Economic Impact
 - \$27 million over the next 20 years to landowners & wood industry
 - \$1.56 billion in urban removal costs & 1 billion in benefits (energy savings, property values etc.)



Every ash tree in town will be dead in five years

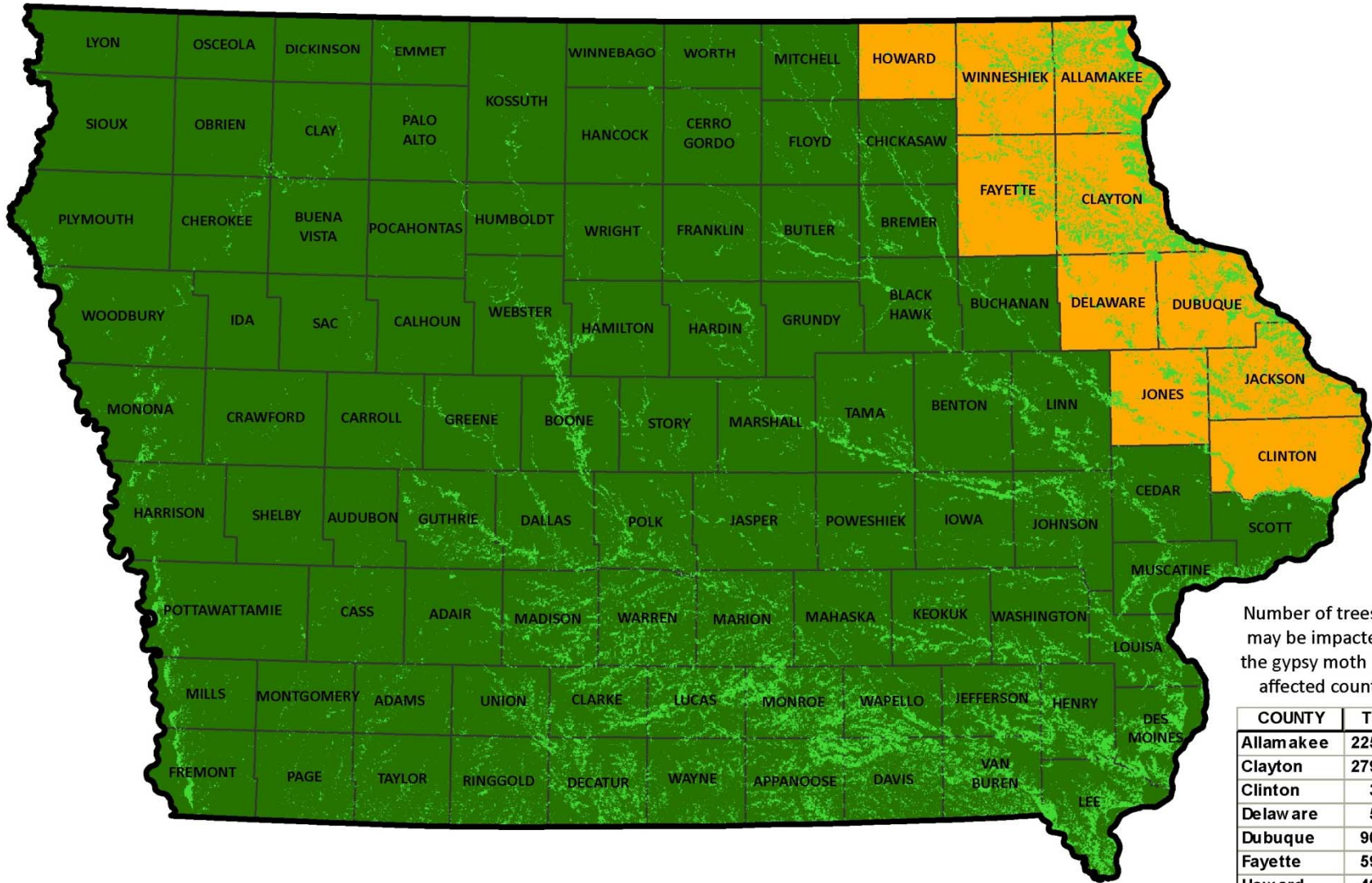


Gypsy Moth

- Brought into Massachusetts in 1869
 - Attempt to breed superior silkworm
- GM caterpillars defoliate over 300 plant species – They like oak
- Captured 2,260 male moths in 2010 – 3X the previous high catch



CURRENT COUNTIES IMPACTED BY GYPSY MOTH



Number of trees that may be impacted by the gypsy moth in the affected counties.

COUNTY	TREES
Allamakee	22584478
Clayton	27933557
Clinton	309094
Delaware	576205
Dubuque	9095299
Fayette	5968063
Howard	4990155
Jackson	6785664
Jones	144981
Winneshiek	2345665
TOTAL	80733161

Forest

Gypsy Moth Impact

No

Yes

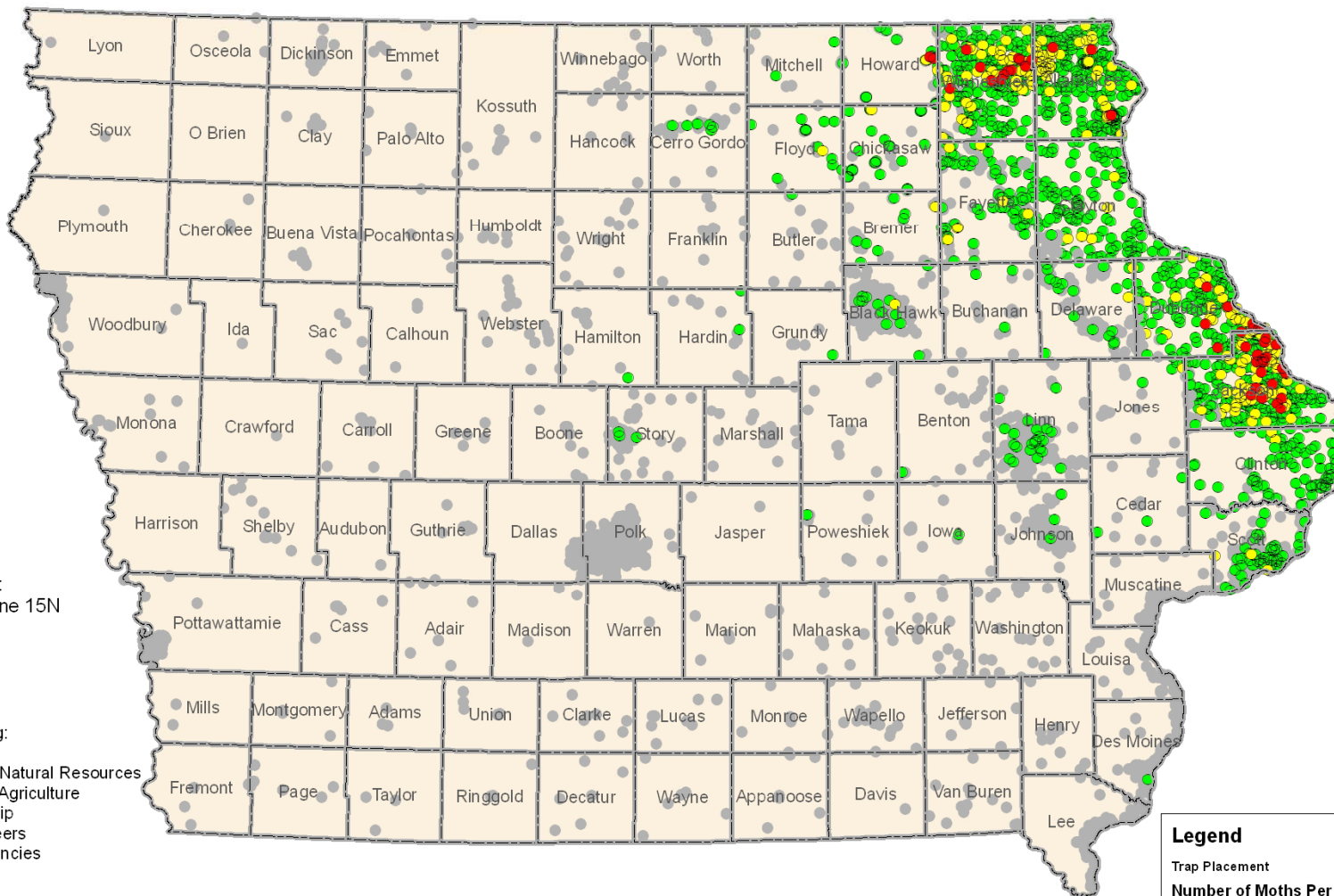
Species included in the numbers are hawthorn, American basswood, oaks, willows, red cedars, plum and pines. The numbers are based on Forest Service, Forest Inventory Assessment (FIA) data, 2008.

Statewide total trees which could be impacted by gypsy moth = 225,514,182.

Total number of host-tree species in impacted counties = 80,733,161

Map created September 17, 2010

2010 Iowa Gypsy Moth Survey



Data Source:

-USDA, APHIS, PPQ
-NRGIS IADNR

Coordinate System:

NAD 1983 UTM Zone 15N

Date Printed: 11/16/10

Agencies Participating:

- USDA, APHIS, PPQ
- Iowa Department of Natural Resources
- Iowa Department of Agriculture
and Land Stewardship
- Army Corp of Engineers
- City and County Agencies

- 5,163 traps were set across the state.
- 2,550 traps set by USDA, IDALS, IADNR and Cooperators had 343 positive traps that produced 502 moths.
- 2,613 traps set by STS had 975 positive traps that produced 1,758 moths.
- Total positive traps are 1,318 with 2,260 moths.

Legend

Trap Placement

Number of Moths Per Trap

- 0
- 1 - 2
- 3 - 4
- 5 - 11

■ Counties



0 12.5 25 50 75 100 Miles

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INSECT TRAP

GOVERNMENT PROPERTY

PLEASE DO NOT DISTURB

For information contact your

County or State or Federal

Plant Protection Programs Office

State TN
County Rhea
Trap No. TVA WATTS 3
Catch Date _____

US FOREST SERVICE FHP

- MANAGEMENT OBJECTIVE - EGG
MASSES/ACRE
- Recreation - Nuisance Prevention 250
- Wildlife – Mast (Nut) Production 500
- Aesthetics - 650
- Timber - 1,200



Human Health

- **Skin rash**
- **Possible upper respiratory tract symptoms.**
(HealthLinkBC)



Gypsy Moth

- Economic Impact
 - \$551 million over the next 20 years to landowners & wood industry
 - \$4.1 billion in urban removal, replacement and benefits (energy savings, property values etc.)



PROPOSED CHANGES TO TREATMENT BLOCKS LA MOTTE AND ANDREW BLOCKS AND DELIMITS JANUARY 10, 2011

2010 Trap Catch


-  Missing Traps
-  Zero
-  1 - 9 Catch in Blue
-  10 - 99 Catch in Red
-  100 or Greater - Dark Red

Delimits



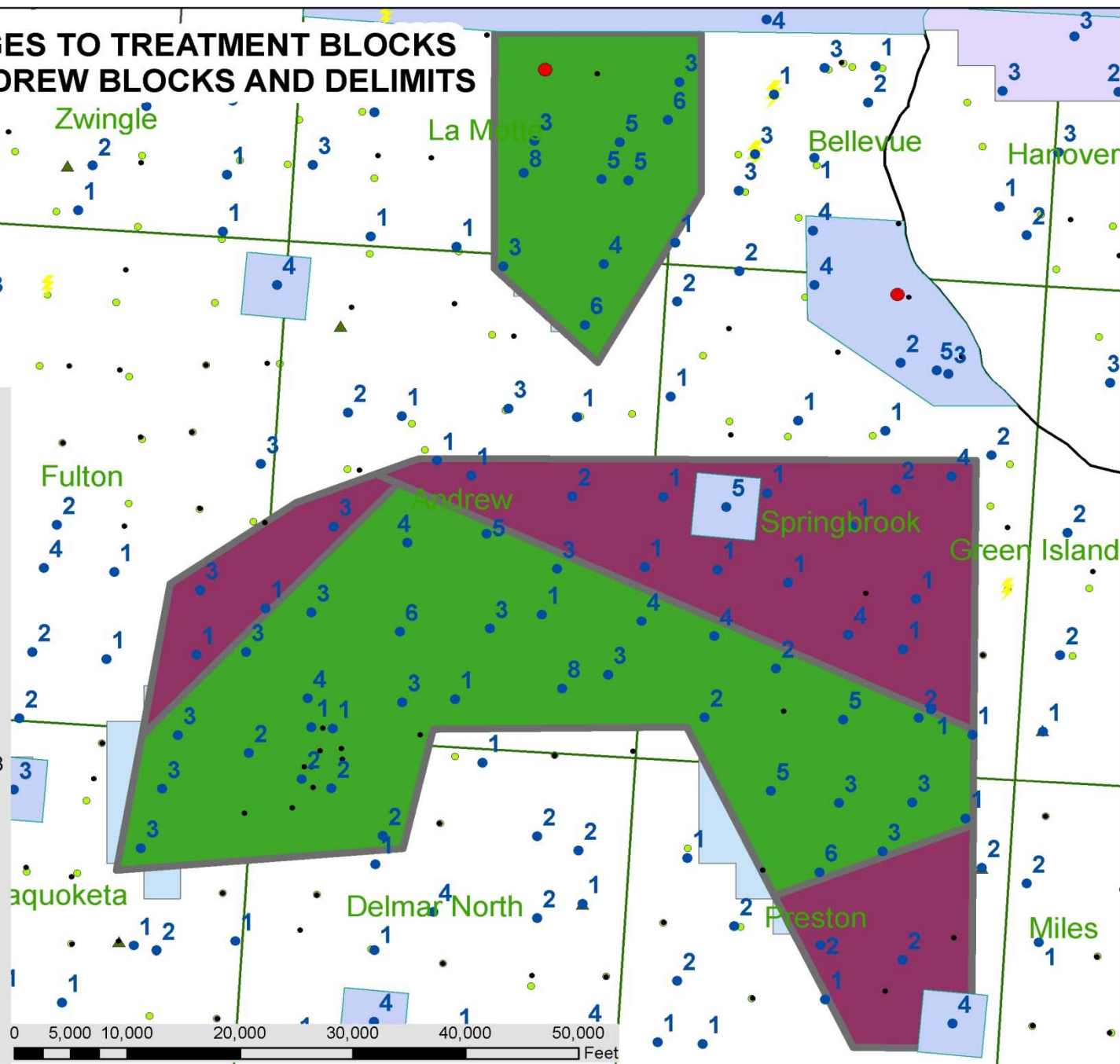
Proposed Changes

Total; Treatment

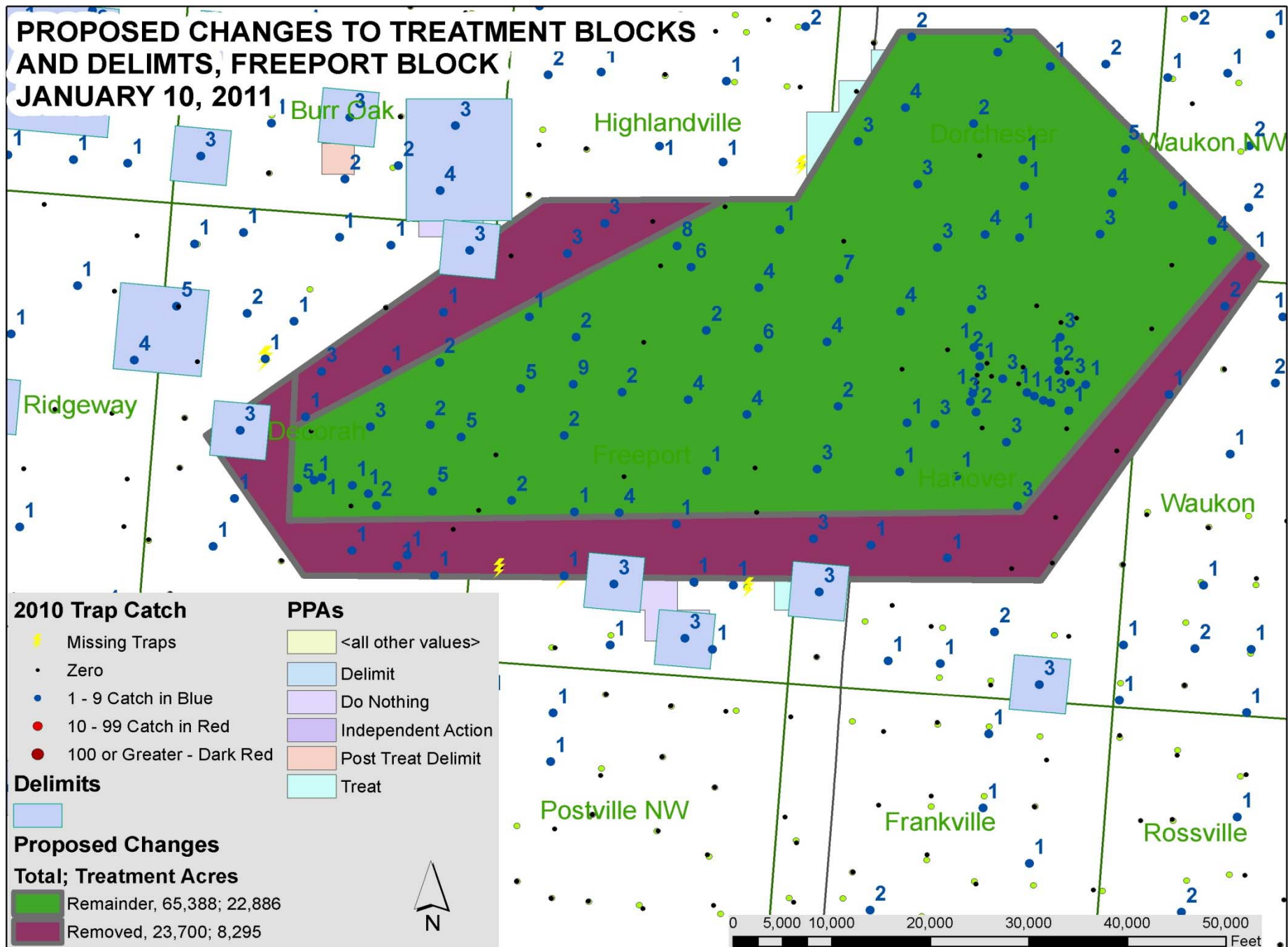
-  Remainder, 45,537; 14,888
-  Removed, 25,600; 8,960

PPAs

-  <all other values>
-  Delimit
-  Do Nothing
-  Independent Action
-  Post Treat Delimit
-  Treat



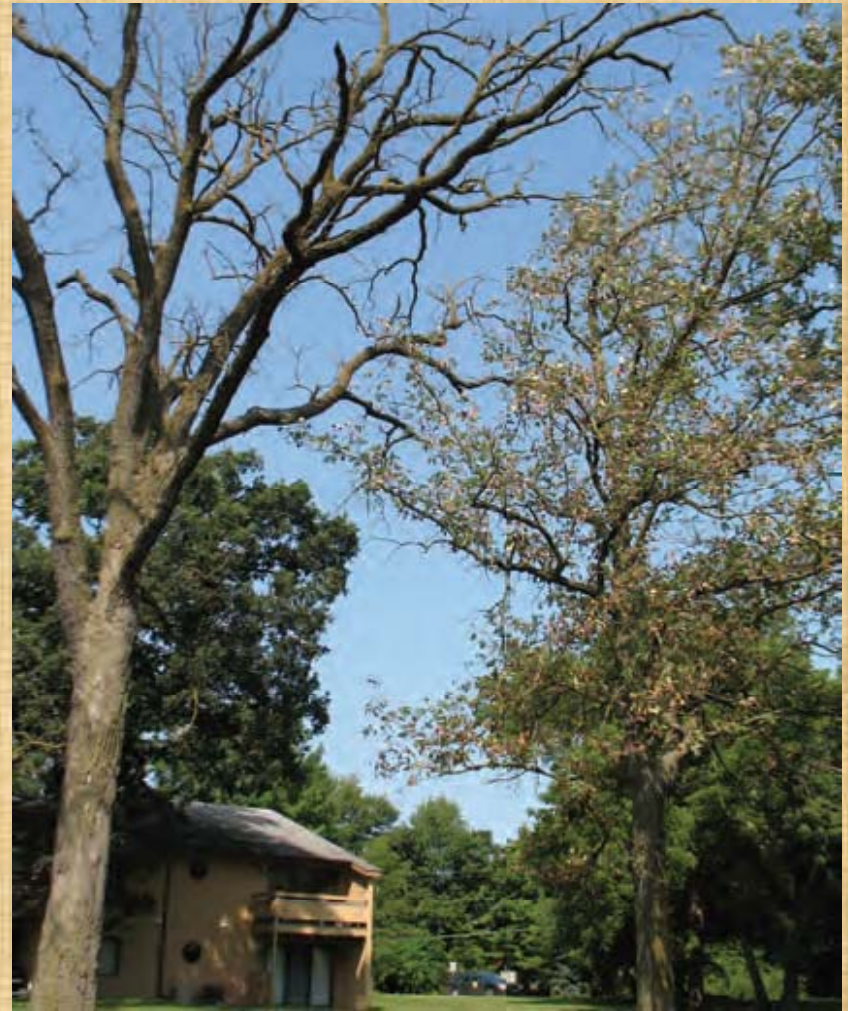
PROPOSED CHANGES TO TREATMENT BLOCKS AND DELIMITS, FREEPORT BLOCK JANUARY 10, 2011





Bur Oak Blight

- **Fungal disease of bur oak – browning leaves to mortality**
- **Statewide**



BOB

- Economic Impact
 - \$19 million over the next 20 years to landowners & wood industry
 - \$613 million in urban removal, replacement and benefits (energy savings, property values etc.)



1,000 Cankers Disease of Walnut (TCD)

- Insect Disease Complex
- Walnut Twig Beetle
 - Historically did not cause mass branch mortality.
- *Geosmithia morbida*
 - Previously not an important plant pathogen.
- Causes 1,000s of lesions from mass attack
- West of the Rocky Mountains. Found in Tennessee in 2010





Two 18-in logs contained
23,040 beetles in one year
after being cut



TCD

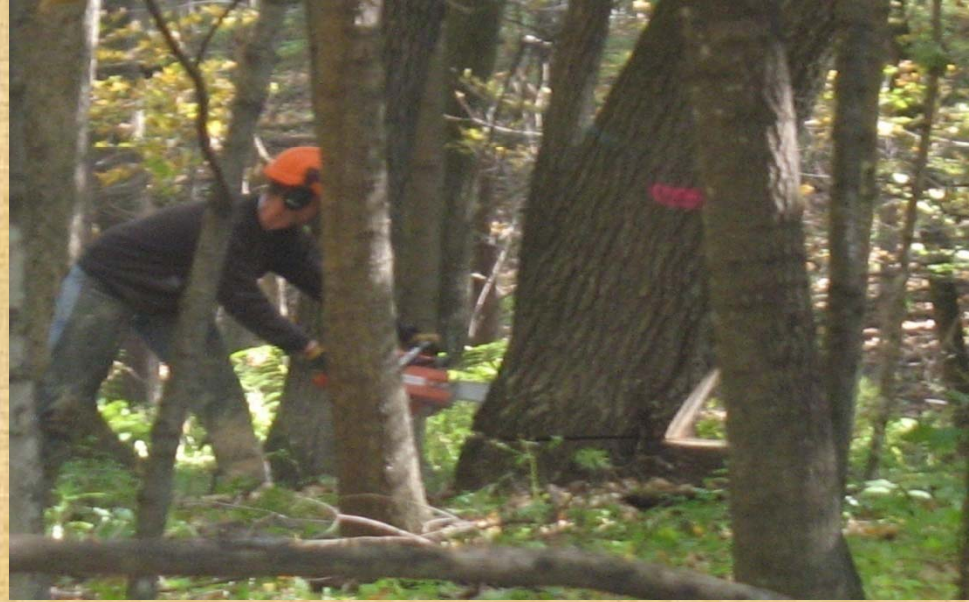
- Economic Impact
 - \$1.8 billion within 20 years of arrival to landowners & wood industry
 - \$859 million in urban removal, replacement and benefits (energy savings, property values etc.)



Why Does It Matter?

Economy

- \$2.4 billion woodland owners & wood industry
- \$8.1 billion in urban removal & replacement costs & lost benefits



Why Does It Matter?

Economy

- Wood based businesses:
 - \$4 billion in products
 - \$916 million in payroll
 - 18,000 jobs



LIABILITY: MAYWOOD, ILLINOIS

- Thirty-two inch diameter green ash
- Located partially on private property and partially on Village Property
- One of two large scaffolds split out of tree
- Two fatalities
- Settlement totaled \$3.35 Million



Solutions

- Limit movement of firewood & raw wood material
- Monitor for pests
 - Control
 - Quarantine
- Take care of woodlands & community forests
- **Active Management**

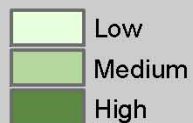


Rural Solutions – Healthy Woodlands Take Planning





Forest Stewardship Potential



Current Forest Plans, 2000-2010

Historic Forest Plans, 1946-2005

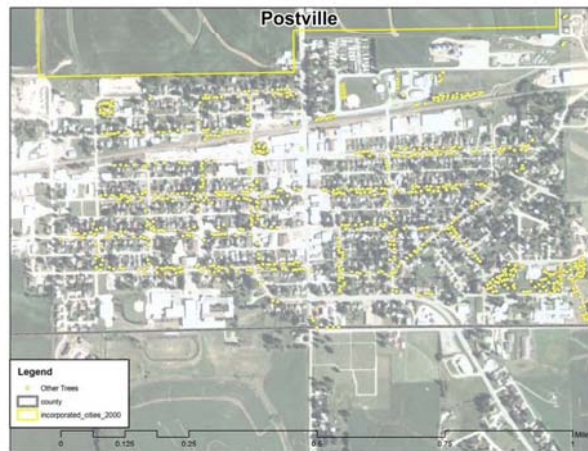
Current Plans - 296,499 acres

Historic Plans - 232,731 acres

Potential for Forest Stewardship Benefits and Existing Stewardship Plans, Iowa

Urban Solutions – Diverse Community Forests/Planning

Postville, IA

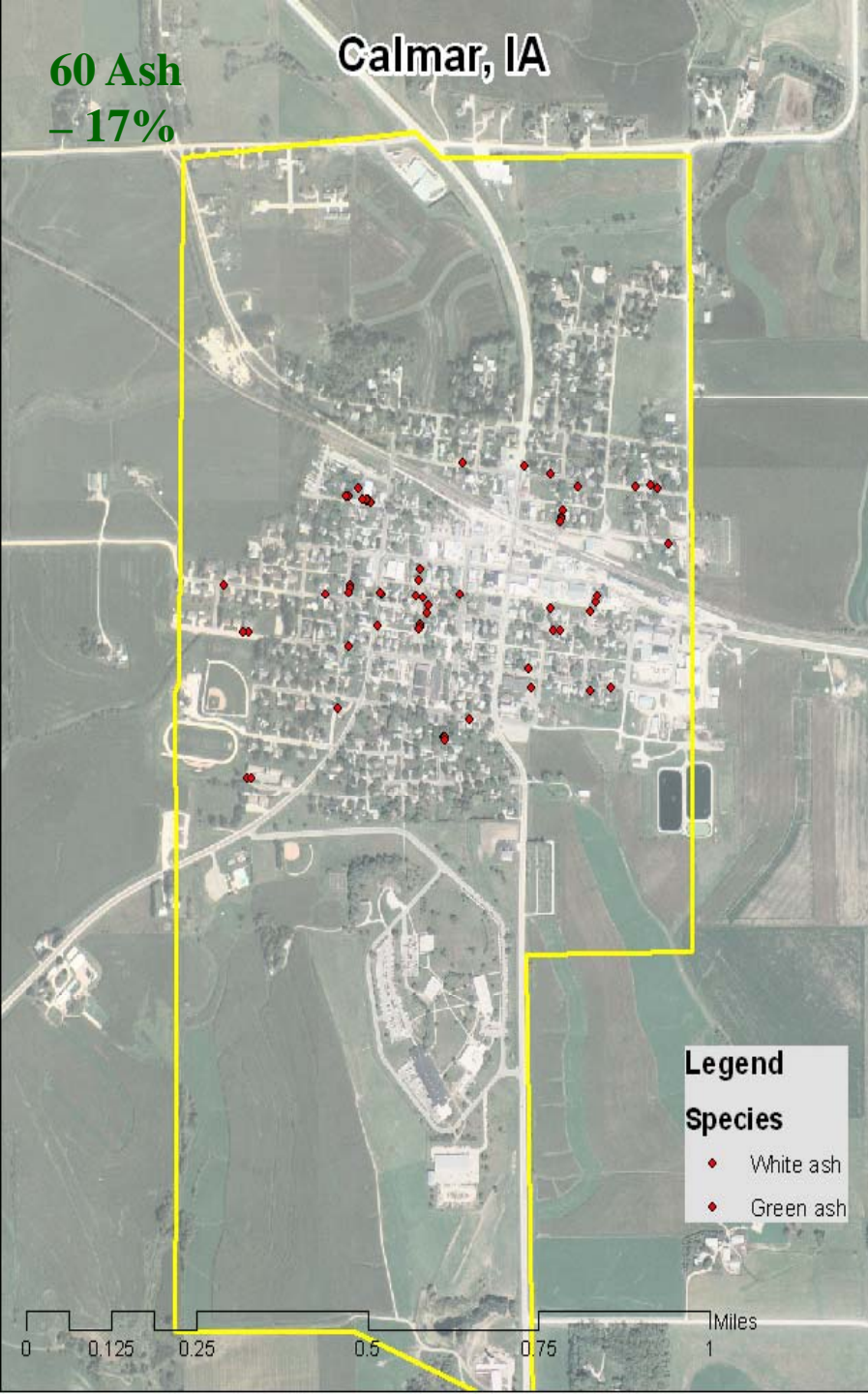


2010 Management Plan
Prepared by Emma Bruemmer & Tivon Feeley
Bureau of Forestry, Iowa DNR

- Postville's trees provide \$122,253 of benefits annually
- There are over 27 species of trees
- The top three genus are: Maple 45%, Ash 17% and Oak 15%
- Ash removal and replacement will cost an estimated \$117,000.

60 Ash
- 17%

Calmar, IA



Calmar, IA



Solutions -Healthy Woodlands Initiative -

- **Increased
Technical &
Planning
Assistance**

**Coalition for Iowa's
Woodlands & Trees**

- **Funding for
community tree
removal &
replacement**
- **Funding to
Assist
Landowners with
FSI**

